

# technical data

## Super Koropon® fluid resistant interior primers

### Description

Super Koropon® fluid resistant interior primers are conventional solids, chemically cured, lead and cadmium free epoxy primers. These high performance primers are formulated to protect the interior of aircraft from filiform and exfoliation corrosion. Super Koropon® fluid resistant interior primers have excellent adhesion to a variety of substrates and exhibit a high degree of Skydrol® resistance. These primers have been used successfully on a wide variety of aircraft throughout the world.

Super Koropon® fluid resistant interior primers are compatible with all non-electrostatic application equipment and are easy to spray. For further details on the application parameters for these primers, consult the application guide for Super Koropon® fluid resistant interior primers or contact your local PRC-DeSoto International Application Support Center.

Super Koropon® fluid resistant interior primers are qualified to the following specifications:

#### 515K011

- BMS 10-11 Type I Class A Grade A
- CMS 565-01 Class A Grade A
- LES 1091
- 207-9-436 Classification C
- A8B91-S
- RM 11-0018-1288-9

#### 513K009

- BMS 10-11 Type I Class A Grade A
- CMS 565-01 Class A Grade A

#### 515-700

- DPM 4838
- DMS 1786 Composition A
- MMS-415
- STMO 685
- 171A4764P1
- SP-676
- VS 1-3-1-41

Super Koropon® fluid resistant interior primers are compatible with the following topcoat specifications:

- BMS 10-60 Type I
- BMS 10-11 Type II
- DPM 5391
- DMS 2143

### Application properties

Application temperature	65°F to 95°F (18.3°C to 35°C)
Application humidity	18% to 95%
Mix ratio (by volume)	
515K011(Base)	1 part
910-012 (Activator)	1 part
513K009 (Base)	1 part
910-012 (Activator)	1 part
515-700 (Base)	1 part
910-704 (Activator)	1 part
Viscosity	
Initial (#1 Zahn cup)	26 to 35 sec.
Pot life	
515K011/513K009 (16 hours)	30 sec. max.
515-700 (8 hours)	10 sec. rise max
VOC, EPA method 24	650 grams/l
Dry film density	
515K011, 513K009, 515-700	0.00945 lbs/ft² @ 1.0 mil dry film (46.2 g/m² @ 25 microns dry film)
Theoretical coverage	
515K011	362 ft²/gal @ 1.0 mil dry film (8.88 m²/l @ 25 microns dry film)
513K009	382 ft²/gal @ 1.0 mil dry film (9.38 m²/l @ 25 microns dry film)
515-700	352 ft²/gal @ 1.0 mil dry film (8.64 m²/l @ 25 microns dry film)
Recommended dry film thickness	
	0.5 to 0.9 mils (12.5 to 22.5 microns)
Drying times @ 75°F (23.9°C)	
Tack free	30 min. max.
Air dry to stack	45 min.
Dry to tape	2 hours
Dry through	4 hours
Dry to topcoat	1 to 24 hours
Dry to fly	48 hours
Full cure	7 days
Accelerated cure	
	15 minutes flash off @ 75°F (23.9°C), then 40 to 45 minutes at 140°F (60°C)
Color	
515K011	Green, BAC 452
513K009	Yellow, BAC 377
515-700	Light green

## Super Koropon® fluid resistant interior primers

Spray equipment  
Compatible with all forms of non-electrostatic  
spray equipment  
Shelf life  
24 months from date of manufacture

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### Performance properties

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Service temperature	-65°F to 350°F (-54°C to 176.7°C)	Conforms
Flexibility	1/8 inch (3.12 mm) dia Conical Mandrel	Conforms
Low temperature flexibility	4 inch (100 mm) Mandrel @ -65°F (-54°C)	Conforms
Impact resistance	50 inch/lbs, (forward)	Conforms
	30 inch/lbs, (reverse)	Conforms
Film hardness	F pencil minimum	Conforms
Fluid resistance	Skydrol® (LD-4), 30 days @ 77°F (25°C)	Conforms
	Distilled H <sub>2</sub> O, 7 days @ 77°F (25°C)	Conforms
	TT-S-735 Type III, 30 days @ 77°F (25°C)	Conforms
	MIL-H-5606, 30 days @ 77°F (25°C)	Conforms
	MIL-L-7808, 30 days @ 77°F (25°C)	Conforms
Corrosion	Salt spray	
	Passes 3000 hours	Conforms
	Filiform	
	Passes 30 days @ 100°F (37.8°C) and 85% RH	Conforms
	Dissimilar metals (DMS 1786, 515-700 only)	
	5% salt spray for 2000 hours	Conforms
	Magnesium corrosion (DMS 1786, 515-700 only)	
	5% salt spray for 200 hours	Conforms

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**Note:** The application and performance property values above are typical for the material, but not intended for use in specification or acceptance inspection criteria because of variations in testing methods, conditions, and configurations.

### Storage life

Inspect the condition of the container to ensure compliance to FED-STD-141, Method 3011.1. The material should be stored at temperatures between 40°F to 115°F (4.4°C to 46.1°C) to ensure shelf life.

### Health precautions

This product is safe to use and apply when recommended precautions are followed. Before using this product, read and understand the PRC-DeSoto International "Safe Handling Guide" for aerospace coatings and the Material Safety Data Sheet (MSDS), which provide information on health, physical and environmental hazards, handling precautions, and first aid recommendations. An MSDS and the Safe Handling Guide are available on request. Avoid over-exposure. All mixing and spraying must be conducted with adequate ventilation and proper personal protective equipment as recommended. Obtain medical care in case of extreme overexposure.

**For industrial use only. Keep away from children.**

**For emergency medical information call 1-800-228-5635.**

**For sales and ordering information call 1-800-AEROMIX (237-6649).**

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**Super Koropon®**  
interior primers application guide

## Use

Super Koropon® interior, conventional solids, epoxy primers are used on aluminum and composite surfaces. These primers are designed to effectively protect the substrate with or without topcoats. Super Koropon® primers have superior film properties such as corrosion resistance, adhesion to all surfaces, Skydrol® resistance, and topcoat compatibility. They are qualified to the following specifications:

515K011 — BMS 10-11 Type I Class A Grade A  
515-700 — DMS 1786

For a complete list of specifications, consult the Super Koropon® fluid resistant, interior primers technical data sheet.

## Surface preparation

Good surface preparation is essential to ensure full protective properties and maximum adhesion. The following is an outline of the recommended surface preparation procedures.

### Aluminum substrates

To apply these primers over aluminum, the substrate should be chemically cleaned and then applied with a chromate conversion treatment such as Alodine 1200. In certain cases these primers have been applied to water break-free surfaces without the use of an Alodine 1200 pretreatment.

1. Wet abrade with a fine Scotch-Brite™ pad and water.
2. Solvent clean with Desoclean® 110 cleaner and wipe dry.
3. Use an alkaline cleaner, rinse with warm water, and make sure no residue remains.
4. Acid etch with a mild acid brightener. Agitate the brightener with Scotch-Brite™ pads.

**Note:** Mix the brightener according to the manufacturer's instructions.

5. Water wash to neutralize the acid brightener. Next observe the surface for water breaks. If a water break occurs before 30 seconds, repeat steps 4 and 5. Also check pH of run off water.
6. Apply the chromate conversion treatment.

**Note:** If a chromate conversion coating cannot be used, delete this step.

7. Rinse with water.
8. Check for water break-free surface.
9. Allow the surface to dry completely.
10. Apply Super Koropon® primer within 24 hours of applying the chromate conversion treatment.

## Composite substrates

1. Abrade the composite surface with 240 grit sandpaper.
2. Clean the surface to the manufacturer's specifications.
3. Apply the filler surfacer (513X393) if required.  
Sand the surfacer and clean with water.
4. Apply the Super Koropon® primer.

**Note:** Some carbide sandpapers contain silicone or stearate binders which will cause dewetting or crawling problems.

## Aged interior primer

An aged Super Koropon® primer is more than 24 hours since it was applied. A typical procedure for applying new primer over an aged one requires the following steps:

1. Abrade the primer with 240 grit sandpaper to reactivate the surface.
2. Solvent wipe the surface with Desoclean® 110 solvent cleaner and wipe dry.
3. Apply a thin coat of Super Koropon® primer.

## Material inspection prior to use

Prior to using, inspect the containers for damage or leaks that may have occurred during shipping. The condition of the curing solution is an important factor to obtain the best properties from Super Koropon® primer. The appearance of a white haze in the curing solution is an indication of moisture contamination.

## Mixing

Before mixing the primer, the material should be allowed to reach room temperature. This can be achieved by leaving the material at room temperature for about 24 hours before mixing. Be sure all mixing and measuring containers are clean and free from contamination. Shake the base component or stir it thoroughly until there is no solid material left on the bottom of the can.

The mix ratio of Super Koropon® primers is one to one. Slowly add while agitating, one volume of curing solution to one volume of base component. Do not add thinner.

**Note:** Do not use thinners or flow control agents from another source. These often contain materials that will degrade the cure, adhesion, or appearance of the primer. Do not use material beyond its shelf life, which is one year from the date of manufacture.

### Pot life

Super Koropon® primers need an induction time before spraying to optimize chemical resistance properties. The suggested time between mixing and spraying is 30 minutes. Strain the mixed primer through a fine mesh cloth to remove any particles that may have been introduced during mixing and measuring. Stir the mixed material for 10 minutes before spraying.

**Table I**

Pot life versus temperature

Temperature	Pot life
65°F to 70°F (18°C to 21°C)	16 hours
71°F to 80°F (22°C to 26°C)	16 hours
81°F to 90°F (27°C to 32°C)	14 hours
91°F to 95°F (33°C to 35°C)	12 hours

**Note:** Discard any unused material that has exceeded its usable pot life. A primer that has exceeded its usable pot life may still have low viscosity, but could develop severe orange peel.

### Spray equipment

Super Koropon® primers have been developed for use with HVLP, conventional, and airless spray equipment.

### HVLP

#### Airverter

Tip size	1.2 or 1.5 mm
Air cap	10 or 12
Compressor pressure	40 to 60 psi
Atomization pressure at gun	10 psi maximum

#### Binks Mach I

Tip size	#91 or #94
Pot pressure	15 to 35 psi
Atomization pressure at gun	10 psi maximum

#### Graco 1265

Tip size	0.047 to 0.057 inches
Pot pressure	15 to 35 psi
Atomization pressure at gun	10 psi maximum

**Note:** 15 psi = 1 bar

**Note:** In order to achieve 45-50 psi (3 to 3.5 bar) air atomization pressure at the spray gun, the regulated pressure at the mixing pot should be set higher to compensate for pressure loss in the hose. Table II lists air regulator pressure requirements for different hose lengths.

**Table II**

Air regulator pressure required to maintain 45 to 50 psi atomization pressure at the gun.

Air hose length	Air regulator pressure
4 feet (2 meters)	45 psi (3 bar)
15 feet (5 meters)	50 psi (3.5 bar)
25 feet (8 meters)	55 psi (4 bar)
35 feet (11 meters)	65 psi (4.5 bar)
50 feet (15 meters)	70 psi (5 bar)
75 feet (23 meters)	85 psi (6 bar)
100 feet (30 meters)	100 psi (7 bar)

### Application

Apply Super Koropon® primers to an average dry film thickness of 0.60 to 1.2 mils (15 to 30 microns). This can be accomplished by one horizontal application of primer with a 50% overlap or with a box coat (one pass vertically and one pass horizontally).

### Application conditions

The best application conditions for applying Super Koropon® primers are 65°F to 95°F (18°C to 38°C) and 15% to 95% relative humidity. The following table describes the cure characteristics at various temperatures.

### Cure schedule

**Table III**

Cure characteristics versus temperature

Dry time	65°F (18°C)	75°F (24°C)	85°F (29°C)	95°F (35°C)
Dust free	15 mins	10 mins	8 mins	5 mins
Dry to stack	60 mins	45 mins	35 mins	30 mins
Dry to topcoat				
minimum	60 mins	45 mins	35 mins	30 mins
maximum	24 hrs	24 hrs	24 hrs	24 hrs
Minimum cure time to achieve Skydrol® resistance	48 hrs	48 hrs	36 hrs	24 hrs
Ultimate cure	7 days	7 days	7 days	7 days

### Accelerated cure

The cure can be accelerated with heat. After a flash off time of 15 minutes, the primed part can be placed in an oven for 15 minutes at 150°F (65°C).

### Topcoat application

The length of time before applying the topcoat depends upon the temperature. See Table III for the minimum and maximum times to apply the topcoat after priming. If the primer is older than the maximum time recommended, the following schedule is recommended:

Primer age	Comments
1 to 7 days	Lightly abrade the primer surface with Scotch-Brite™ pads, clean with Desoclean® 110 solvent cleaner, then topcoat.
Beyond 7 days	Lightly abrade the primer surface with Scotch-Brite™ pads, clean with Desoclean® 110 solvent cleaner, apply a light coat of primer, and then topcoat.

### Clean up

Flush the spray equipment with Desoclean® 45 solvent cleaner.

The primer is a chemically reacting system. It is no longer soluble in solvents after it has cured. For this reason the equipment should be cleaned as soon as possible after the primer has been applied and always before the material has cured. Note that even a fresh coating deposits a film on the equipment that does not dissolve easily. Agitation with a brush or cloth will help to remove these deposits.

### Health and safety

This product is safe to use and apply when recommended precautions are followed. Before using this product, read and understand the PRC-DeSoto International "Safe Handling Guide" for aerospace coatings and the Material Safety Data Sheet (MSDS) which provide information on health, physical and environmental hazards, handling precautions and first aid recommendations. An MSDS is available on request. Avoid overexposure. All mixing and spraying must be conducted with adequate ventilation and proper personal protective equipment as recommended. Obtain medical care in case of extreme overexposure.

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1-800-228-5635.**

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